Art. XVIII.—*Notes on Dr. Hector's Paper on the Whales and Dolphins of the New Zealand Seas.**

By J. E. Gray, Ph.D., F.R.S., Hon.Mem.N.Z.Inst.

[*Read before the Wellington Philosophical Society, 6th August,* 1873.]

This paper contains many most valuable observations, and adds considerably to our former knowledge of the *Cetacea* of the southern regions, as shown in the appended list. It is very interesting as confirming the existence of the genera *Grampus* and *Beluga* in the Southern or Antarctic seas. It is accompanied by tracings of the skull of *Epiodon chathamiensis*, of the lower jaw of *Mesoplodon layardi*, the ear-bones (represented half the natural size) of *Neobalæna marginata*, *Megaptera?*, *Berardius arnouxi*, and *B. hectori*.

1. *Neobalæna marginata.*

The discovery that the baleen named *Balæna marginata*, and that the ear bones upon which I first established the genus *Caperea*, belong to this whale, is entirely due to Dr. Hector, and I gladly accept the correction, although it has always appeared to me that the baleen is very narrow and long for a whale with such a broad upper jaw, compared with that of the Northern Right Whale; but that may be a peculiarity of the group. The combination of the characters thus brought together indicates an entirely new group of whales, which I propose to call *Neobalænidæ*. The form of the skull and ear bones is peculiar, and very different from that of any known group of *Cetacea*, and I have always found that the characters derived from these parts are connected with peculiar modifications of the external form. The removal of the ear-bone of *Neobalæna* from the family *Balænidæ*, makes the character from that bone in that family as uniform as it is in the other families of *Balænoidea*. The form and structure of the whalebone is finer, but very similar to that of the Greenland Right Whale, and shows an affinity of this family to the *Balænidæ*, but the structure of the head is more like that of *Physalidæ*, as far as we can judge from the figure, never having had an opportunity of seeing the skull itself. The dilated character of the lower jaw is peculiar, and, no doubt, characteristic. The face, or rather the maxillæ and intermaxillæ, are broad for a whale having such long and slender baleen.

We await the discovery and description of the complete *Neobalæna* with great anxiety. If it is the Sulphur-bottom, or Fin-fish, it will be even more interesting, as removing that often mentioned, and hitherto undetermined, whale from our books.

* The paper referred to appeared in the Ann. and Mag. Nat. Hist. for Feb., 1873, and has since been incorporated with Art. XIX., Vol. V., Trans. N.Z. Inst.

The synonyma will, therefore, run thus :—

Balæna marginata, Gray, Zool. Erebus and Terror, p. 48, t. 1, f. 1 (baleen only).

Caperea antipodarum, Gray, P.Z.S., 1864, p. 202, fig. ; Cat. Seals and Whales, p. 101, fig. 9 (ear-bone only) ; Cat. Suppl. (part only).

Neobalæna marginata, Gray, Ann. and Mag. Nat. Hist., 1870, V., p. 221 ; VI., p. 155, figs. 1 and 2 ; Suppl. Cat., p. 40, f. 1 and 2 (drawing of skull only).

I applied the name of *antipodarum* to this species, believing it to be the Black Whale of New Zealand, of which Dr. Dieffenbach had brought such an accurate figure ; and I was confirmed in thinking it the same as the skeleton from New Zealand, which was in the Paris Museum, by the observations of M. Milne-Edwards, Professor Lilljeborg, and Van Beneden, who, though the skeleton had lost its ear-bones, seemed to feel no doubt that it was the skeleton of the whale the ear-bones of which I figured. I have never seen the skeleton myself, for when I was in Paris they considered it a duplicate of the one they had set up, and not worth my seeing. I think it better to retain the name of *Neobalæna* for this genus. The genus *Caperea*, though first established on the ear-bone of this genus, has had its character enlarged by the study of the Paris skeleton, and it would produce less change of name to retain *Caperea* for the whale the skeleton of which is at Paris, otherwise we should have to form a new name for that genus ; but, doubtless, some person wishing to append his name to a new-named old genus, will give it a new appellation.

As the specimen in the Paris Museum has lost its ear-bones, M. Van Beneden has added to the figure of that skeleton the figure of some ear-bones said to come from New Zealand, in the Belgian Museum. Now, as there are at least two Black, or Right Whales, with very different shoulder-blades, that inhabit the coasts of New Zealand, it is not possible to say to which of these species the specimens figured by M. Van Beneden belong.

2. *Eubalæna australis.*

There are at least two Black Whales in New Zealand, and, as yet, I have no evidence that the *Eubalæna australis* has been taken in New Zealand seas. It is doubtful to which of the two Right Whales the animal figured by Dr. Dieffenbach really belongs. I applied to that figure the name of *Balæna antipodarum* (Dieffenb. New Zeal., t. 1), and *Balæna antarctica* (Voy. Erebus and Terror, t. 1); but as this has been applied to the skeleton of the New Zealand whale in the Paris Museum, by M. Milne-Edwards, Professor Lilljeborg, myself, and M. Van Beneden in the Ost. Cétacés, I believe it will be better to retain it for that species ; the form of the blade-bone, which is different from that of all the other Right Whales known, is not likely to be connected with a change in the external form of the animal.

The synonyma will run thus :—

Balæna antipodarum, Gray, Dieffenb. New Zeal., t. 1 (animal).

Balæna antarctica, Gray, Zool. Erebus and Terror, Cet. 16, t. 1 (animal, not Lesson or Owen).

Caperea antipodarum, Lilljeborg; Gray, Cat. Seals and Whales, p. 371; Suppl., p. 45 (not ear-bones).

Balæna antipodarum, Van Beneden, Ostéogr. Cét., p. 46, t. 3 (skeleton; ear-bones doubtful).

The second Black Whale is *Macleayius australiensis*, a skeleton of which is in the British Museum, noticed in the Ann. and Mag. Nat. Hist., 1873, p. 75, and which is described and will be published in the Proc. Zool. Soc. for 1873. It was sent from the coast of Canterbury, New Zealand, as *Balæna antipodarum*, by Dr. Haast. I first thought, from the similarity of the ear-bones, that it was the *Eubalæna australis*, but it is extremely different from it. An account of this skeleton is sent to the New Zealand Institute.*

3. *Megaptera novæ-zelandiæ.*

The whale stranded at Wellington harbour, with "a falcate dorsal," is most probably a *Physalus*, for the peculiar character of *Megaptera* is to have merely a hunch instead of a dorsal fin, and elongate pectoral fins. The ear-bones of *Megaptera* and *Physalus* are nearly similar, and, therefore, it is most probably *Physalus antarcticus*. The colour of the baleen may vary, as the whalers say its character and texture are very different, so distinct that a dealer in these articles can distinguish the baleen of the Finners of the different countries, and they fetch different prices.

8. *Electra clancula*, Gray.

I do not know what Dr. Hector's remark refers to. Perhaps it does not refer to my description. I published a description and figure, which Dr. Hector sent to me, in the Ann. and Mag. Nat. Hist., 1872, ix., p. 436, fig.

10. *Grampus richardsoni.*

The number of teeth varies in the different specimens of the European species.

13. *Epiodon chathamiensis*, and

14. *Mesoplodon layardi.*

I have not seen the skull of *Epiodon australis*, but as yet I have never seen a species of whale or seal common to the coasts of South America and New Zealand. It may be different with the Cape of Good Hope and Australia and New Zealand, but I have seen no decided instance of the same species occurring in two countries; therefore I can give no decided opinion respecting the jaw of *Mesoplodon layardi*. At the same time, I may observe, the

* Vide ante Art. XVII.

Mesoplodon layardi (or, as I should call it, *Dolichodon layardi*) has a much longer and more attenuated lower jaw, and much more slender teeth than the Chatham Island specimen figured and described by Dr. Hector under that name; and I have very little doubt in my own mind that the Chatham Island specimen will be found, when more perfect specimens are obtained, to be the representative of a very distinct species of *Dolichodon*, which I would propose provisionally to designate as *Dolichodon traversii*—a curious comment on the comparative anatomists, who think that *Dolichodon layardi* of the Cape, *Callidon güntheri* of New South Wales, *Petrorhynchus capensis* of the Cape, etc., etc., "all differ in so trifling a degree as not to exceed the range of individual variations one often meets with in comparing a series of skulls of the same species." Surely the author means domestic animals, and entirely leaves out of the question the experience gained by the study of wild ones, and the evidence afforded by the study of their geographical distribution. I must think that when these authors become more experienced they will wish their observations to have a "tacit burial and oblivion," and perhaps, themselves learn how to define genera and species.

15. *Berardius hectori.*

I know nothing of this skull but from the figures and description of Dr. Hector, and the skull has never been in England, so that I do not think that any comparative anatomist has had the opportunity of seeing it. Dr. Hector considered it the young of *B. arnouxi*. I at once saw that it was different, but as it has the teeth in the front of the jaw, like *Berardius*, I considered it best (and am still of the same opinion) to retain it in that genus, with which it agrees in the position of its teeth as developed in the adult animal, and in geographical distribution; and your tracings of the ear-bones of the two species show that there is a great affinity between them in the very peculiar manner in which they are dotted. I consider the position of the teeth a more important zoological character than a slight difference in the "conformation of the naso-premaxillary region," a part that, as every zoologist who has examined several skulls of different ages in the same species of Cetacea knows, is very apt to vary; but when a comparative anatomist draws his conclusions from figures on the examination of a single specimen of a group, he is often liable to be misled as to the value of the characters to which he attaches much importance. Nothing showed this better than the published results of the labours of a comparative anatomist, who has named, but not defined, a multitude of species and genera from fragments of fossil bones, but who, when he attempted to name recent skulls, as of crocodiles, of which he has perfect specimens under his eyes, named and described and published what we now regard as three distinct species in one case, and two distinct species in another, under the same name; and, on the other hand, a series of skulls of

the same species under three different names (see Trans. Zool. Soc., VI., 1869, p. 127), and who mixes up together, under one name, the skulls of two such large and distinct animals, as a one-horned and two-horned rhinoceros, under a single name, as a double-horned one. (See P.Z.S., 1867, p. 1015.) I need not, but could, refer to many more instances of the same kind. I am in the habit of estimating from what is written about what I know, the reliance I may place upon what is written of what I do not know, and have thus lost my confidence in this author's writings on zoological questions. He may be an admirable comparative anatomist, and I am told that since he has had the well-determined skeletons of the Zoological Department in the British Museum so easy of access, he does not make the mistakes that he formerly did, and his observations on the recent Ziphioid Whales are all made on skulls which I had previously determined and named.

It is an old complaint that persons will write about what they have a limited knowledge of. Thus the comparative anatomists are always giving their opinions on the limits and definitions of genera and names that ought to be used—subjects not much in their way, and on which they have very crude ideas. What would they say if a zoologist interfered with their anatomical details, their confused nomenclature of bones, and their much controverted homologies? But it is the more remarkable when we consider how very few animals have been dissected, and how imperfectly those that have been dissected have been described, as is proved by their own papers (see for instance Mr. Clarke's late paper on the hippopotamus, Proc. Zool. Soc. 1872, p. 185), that an anatomist should leave his subject and diverge to write upon the synonyma of species and the priority of names, all of which is mere compilation on his part.

Art. XIX.—*On the Occurrence of a New Species of* Euphysetes (E. pottsii), *a remarkably small Catodont Whale, on the Coast of New Zealand.*

By Julius Haast, Ph.D., F.R.S., Director of the Canterbury Museum.

Plate XV.

[*Read before the Philosophical Institute of Canterbury, 6th August,* 1873.]

Amongst the specimens lately added to the collections in the Canterbury Museum, either new to science, or at least to New Zealand, none is more interesting than that of a remarkably small catodont whale, allied to *Euphysetes grayii*, which was stranded amongst the rocks in Governor Bay, near Ohinitahi, the residence of T. H. Potts, Esq., F.L.S., by whom it was secured and presented to the Canterbury Museum.

As far as I am aware only another species of the genus *Euphysetes* exists,